VOLUME AND FILE STRUCTURE	SECTION FOR INSERTION OF OTHER VOLUME & FILE STRUCTURE INFORMATION	VIDEO ZONE	OTHER ZONE
400	403	405	407

VIDEO MANAGER	VIDEO ZONE
409	411

NAVIGATION INFORMATION	SECTION FOR INSERTION OF OTHER NAVIGATION INFORMATION	OTHER DATA
414	418	420

NAVIGATION INFORMATION	SECTION FOR INSERTION OF OTHER NAVIGATION INFORMATION	OTHER DATA
422	424	427

FIG. 1

VOLUME AND FILE STRUCTURE ⌐191	VIDEO MANAGER ⌐200	VIDEO TITLE SET 1 ⌐203	VIDEO TITLE SET 99 ⌐205

...

VMG   VTS

CONTROL DATA 207	DISC MENU 209	VMGI BACKUP 210

VMGI   VOBS

CONTROL DATA 213	TITLE MENU 217	TITLE CONTENT 223	VTSI BACKUP 225

VTSI   VOBS   VOBS

VIDEO MANAGER INFORMATION MANAGEMENT TABLE	⌐230
TITLE SEARCH POINTER TABLE	⌐233
VIDEO MANAGER PGCI UNIT TABLE	⌐235
PARENTAL MANAGEMENT INFORMATION TABLE	⌐237
VIDEO TITLE SET ATTRIBUTE TABLE	⌐239
TEXT DATA MANAGER	⌐242
VIDEO MANAGER MENU CELL ADDRESS TABLE	⌐244
VIDEO MANAGER MENU VIDEO OBJECT UNIT ADDRESS MAP	⌐246

VIDEO OBJECT 260	...	VIDEO OBJECT 262

VOB

CELL 264	...	CELL 266

VIDEO OBJECT UNIT 268	...	VIDEO OBJECT UNIT 270

VOBU

NAVIGATION PACK 272	OTHER PACK 274	...	OTHER PACK 276

NV_PCK   A_PCK, V_PCK, SP_PCK

PACK HEADER 280	SYSTEM HEADER 282	PACKET HEADER 284	SUB_STREAM_ID 286	PCI DATA 288	PACKET HEADER 290	SUB_STREAM_ID 292	DSI DATA 294

ONE PACK

PRESENTATION CONTROL INF. (PCI) PACKET

DATA SEARCH INFORMATION (DSI) PACKET

TITLE SEARCH POINTER TABLE INFORMATION	⌐248
TITLE SEARCH POINTER FOR TITLE #1	⌐253
TITLE SEARCH POINTER FOR TITLE #2	⌐255
:	⌐257
TITLE SEARCH POINTER FOR TITLE #N	⌐259

FIG. 2

codec codec200

#	PARAMETERS/TABLES/MAPS	PRE-PROCESSING (633)	DURING RECORDING (637)	POST-PROCESSING (639)	READ ONLY FORMAT DATA ITEM (FIGURE2) (640)	GENERIC FORMAT DATA ITEM (FIGURE1) (645)
650	MENU	Y	C	U	209, 217	409, 418
652	LANGUAGES	Y		MULTIPLE	209, 217	409, 418
655	PROGRAM CHAIN INFORMATION IN MENU DOMAIN	Y	C	U	209, 217	409, 418
657	NUMBER OF VIDEO OBJECTS IN VIDEO TITLE SET MENU			U	217	424
659	CONTENT RATINGS	O	O	O	207	411-424
663	NUMBER OF VIDEO TITLE SET		X	U	200	409
665	NUMBER OF TITLE SEARCH POINTER		X	U	200	
667	BIT 7 OF THE BYTE TITLE PLAY BACK		ZERO	ONE	207	409, 418
669	NAVIGATION COMMANDS IN MENU		R	U	209, 217	409, 418
672	NAVIGATION INFORMATION IN VIDEO OBJECT UNIT		R	U	272	427
675	FORWARD ADDRESSES IN VIDEO OBJECT UNIT		R	U	272	427
677	FILES IN FILE STRUCTURE	O	O	U	191	403
679	VIDEO MANAGER INFORMATION MANAGEMENT TABLE	O	O	U	207	409, 414, 418
682	TITLE SEARCH POINTER TABLE		R	U	207	409, 414, 418
686	VIDEO MANAGEMENT INFORMATION TABLE					
689	TEXT DATA MANAGER	O	O	O	207	409, 414, 418
691	VIDEO MANAGER MENU CELL ADDRESS TABLE	O	R	U	207	409, 414, 418
693	VIDEO TITLE SET ATTRIBUTE SEARCH POINTER		R	U	207	409, 414, 418
695	VIDEO TITLE SET ATTRIBUTE		R	U	207	409, 414, 418
697	VIDEO OBJECT UNIT ADDRESS TABLE	O	R	U	207, 213	409, 411

O: OPTIONAL,   R: RECORD AND INSERT DUMMY DATA FOR UNKNOWN INFORMATION   U: UPDATE, AND REPLACE DUMMY DATA WITH RIGHT INFORMATION

X: INSERT THE CORRECT INFORMATION, THIS DATA IS TO BE CHECKED DURING UPDATING.   Y: INFORMATION IS KNOWN BUT MAY ALSO BE UPDATED LATER

C: COPY EXISTING DATA ONTO DISC.   MULTIPLE: COULD BE MORE THAN 1.

FIG. 3A

PARAMETERS/TABLES/MAPS	PRE-PROCESSING 633	DURING RECORDING 637	POST-PROCESSING 639	READ ONLY FORMAT DATA ITEM (FIGURE2) 640	GENERIC FORMAT DATA ITEM (FIGURE1) 645
701 VIDEO TITLE SET INFORMATION MANAGEMENT TABLE		R	U	213	411, 422, 424
703 PART OF TITLE IN VIDEO TITLE SET SEARCH POINTER TABLE		R	U	213	411, 422, 424
705 PROGRAM CHAIN INFORMATION TABLE IN VIDEO TITLE SET		R	U	213	411, 422, 424
707 VIDEO TITLE SET MENU PROGRAM CHAIN INFORMATION UNIT TABLE		R	U	213	411, 422, 424
709 VIDEO TITLE SET TIME MAP TABLE		O	O	213	411, 422, 424
711 VIDEO TITLE SET MENU CELL ADDRESS TABLE		C	U	213	411, 422, 424
713 VIDEO TITLE SET MENU VIDEO OBJECT UNIT ADDRESS MAP	Y	C	U	213	411, 422, 424
716 VIDEO TITLE SET CELL ADDRESS TABLE	Y	R	U	213	411, 422, 424

O: OPTIONAL,   R: RECORD AND INSERT DUMMY DATA FOR UNKNOWN INFORMATION   U: UPDATE, AND REPLACE DUMMY DATA WITH RIGHT INFORMATION
X: INSERT THE CORRECT INFORMATION, THIS DATA IS TO BE CHECKED DURING UPDATING. Y: INFORMATION IS KNOWN BUT MAY ALSO BE UPDATED LATER
C: COPY EXISTING DATA ONTO DISC. MULTIPLE: COULD BE MORE THAN 1.

FIG. 3B

TITLE SEARCH POINTER DATA

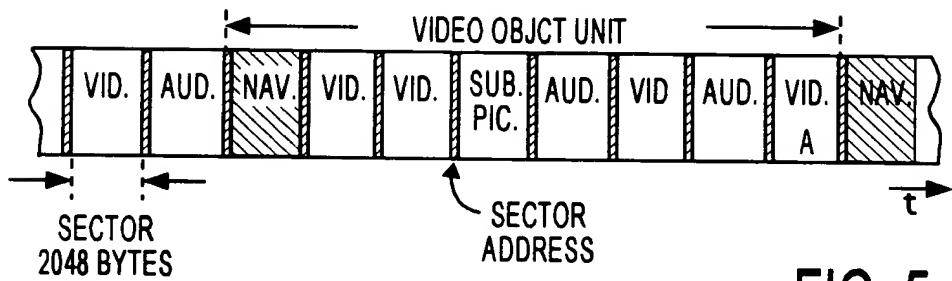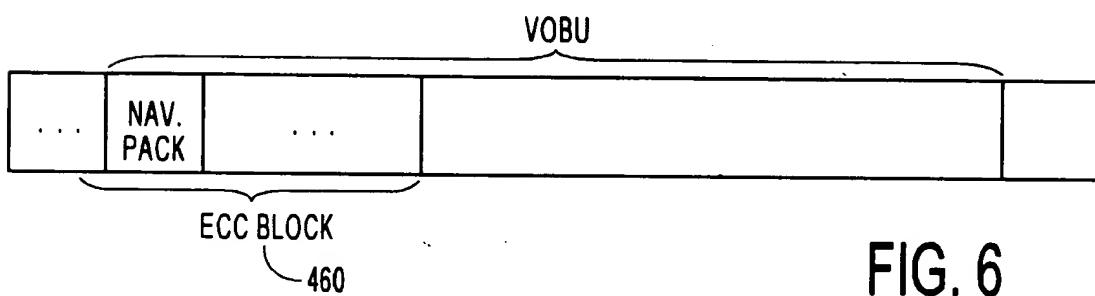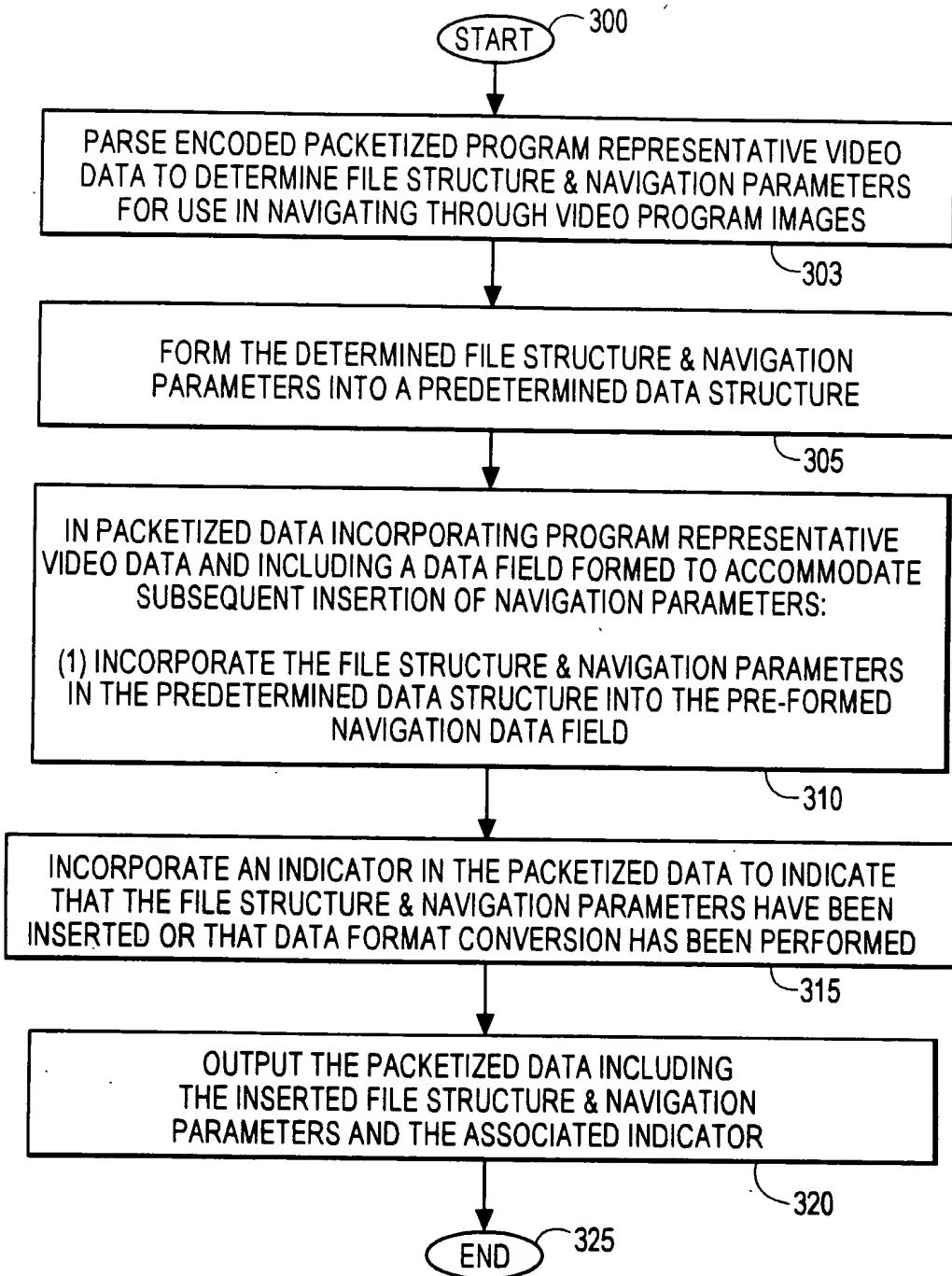| CONTENTS |
|---|
| 440 — TITLE PLAYBACK TYPE |
| 442 — NUMBER OF ANGLES |
| 444 — NUMBER OF PART_OF_TITLES |
| 446 — PARENTAL_ID_FIELD FOR TITLE |
| 448 — VIDEO TITLE SET NUMBER |
| 450 — VIDEO TITLE SET TITLE NUMBER |
| 452 — START ADDRESS OF THE VIDEO TITLE SET |

FIG. 4

VIDEO OBJCT UNIT

| VID. | AUD. | NAV. | VID. | VID. | SUB. PIC. | AUD. | VID | AUD. | VID. A | NAV. |

SECTOR
2048 BYTES

SECTOR
ADDRESS

t

FIG. 5

VOBU

| ... | NAV. PACK | ... | | |

ECC BLOCK
460

FIG. 6

START ～300

↓

PARSE ENCODED PACKETIZED PROGRAM REPRESENTATIVE VIDEO DATA TO DETERMINE FILE STRUCTURE & NAVIGATION PARAMETERS FOR USE IN NAVIGATING THROUGH VIDEO PROGRAM IMAGES

～303

↓

FORM THE DETERMINED FILE STRUCTURE & NAVIGATION PARAMETERS INTO A PREDETERMINED DATA STRUCTURE

～305

↓

IN PACKETIZED DATA INCORPORATING PROGRAM REPRESENTATIVE VIDEO DATA AND INCLUDING A DATA FIELD FORMED TO ACCOMMODATE SUBSEQUENT INSERTION OF NAVIGATION PARAMETERS:

(1) INCORPORATE THE FILE STRUCTURE & NAVIGATION PARAMETERS IN THE PREDETERMINED DATA STRUCTURE INTO THE PRE-FORMED NAVIGATION DATA FIELD

～310

↓

INCORPORATE AN INDICATOR IN THE PACKETIZED DATA TO INDICATE THAT THE FILE STRUCTURE & NAVIGATION PARAMETERS HAVE BEEN INSERTED OR THAT DATA FORMAT CONVERSION HAS BEEN PERFORMED

～315

↓

OUTPUT THE PACKETIZED DATA INCLUDING THE INSERTED FILE STRUCTURE & NAVIGATION PARAMETERS AND THE ASSOCIATED INDICATOR

～320

↓

END ～325

FIG. 7

START 350

357
USER CONVERSION
SELECTION INPUT

359
CONVERT
PROGRAM
OR DISK?

PROGRAM

361
IS
CONVERSION
INDICATOR
SET?

Y

END

355

DISK

N

363
IS
CONVERSION
INDICATOR
SET?

Y

END 365

N

FOR DATA ELEMENT TO BE CONVERTED
FOR EACH ERROR CORRECTION CODED (ECC) BLOCK IN A VOBU,
FOR EACH VOBU IN A PROGRAM AND
FOR EACH PROGRAM ON A DISK:

PRE-PROCESS:
READ & PARSE AN ECC BLOCK AND GENERATE GENERIC DATA

FORMAT FILE STRUCTURE & NAVIGATION PARAMETERS AND INCORPORATE THESE
PARAMETERS IN GENERIC FORMAT DATA FIELDS

CONTEMPORANEOUS PROCESS:
UPDATE & GENERATE SELECTED FILE STRUCTURE & NAVIGATION PARAMETERS

WRITE TODISK PRE-PROCESSED ECC BLOCK IN GENERIC FORMAT INCLUDING
PRE-PROCESSED & CONTEMPORANEOUSLY PROCESSED FILE STRUCTURE & NAVIGATION
DATA PARAMETERS.

POST-PROCESS:
UPDATE FILE STRUCTURE & NAVIGATION PARAMETERS IN GENERIC FORMAT ON DISK TO
REFLECT KNOWN LINK/END ADDRESSES, DATA ELEMENT SIZES ETC.

SET INDICATOR PER PROGRAM TO INDICATE FORMAT CONVERSION COMPLETE
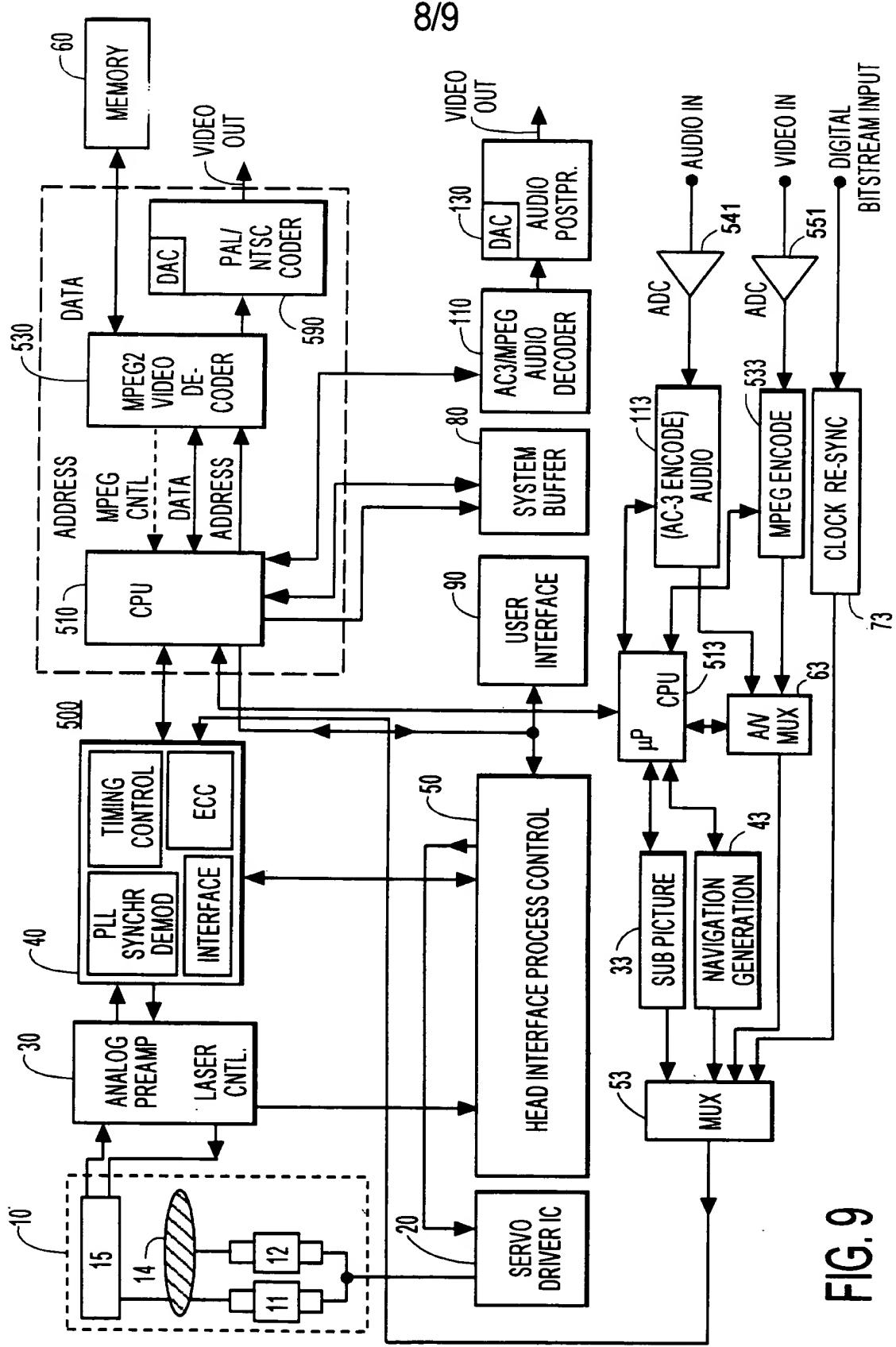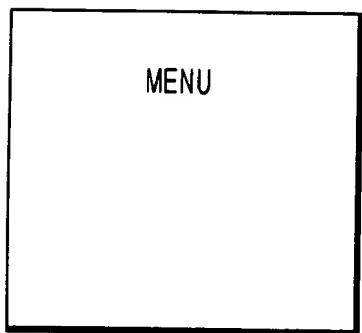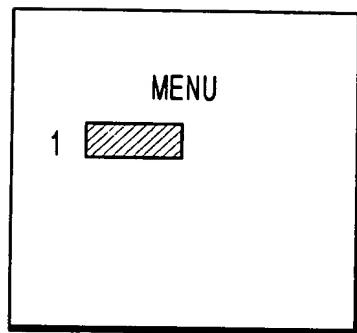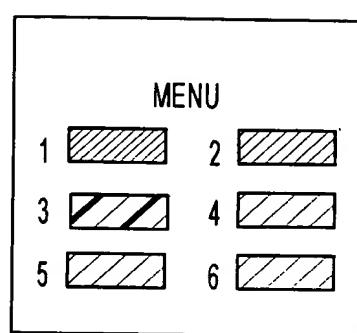
367

END 373

FIG. 8

FIG. 9

MENU

(A) NO VISIBLE BUTTON

MENU

1 ▨

(B) BUTTON 1 IS ADDED

MENU

1 ▨   2 ▨
3 ▨   4 ▨
5 ▨   6 ▨

(C) SIX BUTTONS ARE ADDED

FIG.10